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Decision Support Tools: What this Workshop is All About



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Presentation Overview

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Presentation Overview

- What are decision support tools?

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- What are decision support tools?
- Why use decision support tools?

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- What are decision support tools?
- Why use decision support tools?
- Are there different types of tools?

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Presentation Overview

- What are decision support tools?
- Why use decision support tools?
- Are there different types of tools?
- What was “Changing Landscapes 1”?

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What are Decision Support Tools?

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What are They?

- Three principle components:
 - Database
 - Model base
 - User interface
- Designed to deal with ill- or semi-structured decisions by supporting a process that is iterative, integrative, and participative.

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Why Use Decision Support Tools?

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Decision Support Tools

- Help people make connections between land use decisions and natural resources.
- Highlight the consequences of projected land use change(s).
- Give voice to those not usually heard...

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Decision Support Tools

- ...including those who may depend on watersheds or other resources for health, livelihood, and quality of life.



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Significance of Using Tools

Decision support tools...

- Provide alternatives to traditional decision-making processes.
- Improve the ability of decision-makers.
- Are cost effective.

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Are There Different Types of Tools?

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Types of Tools

- Data access.
- Data provision.
- Interactive data mapping.
- Simple data analysis.
- Predictive modeling tools.



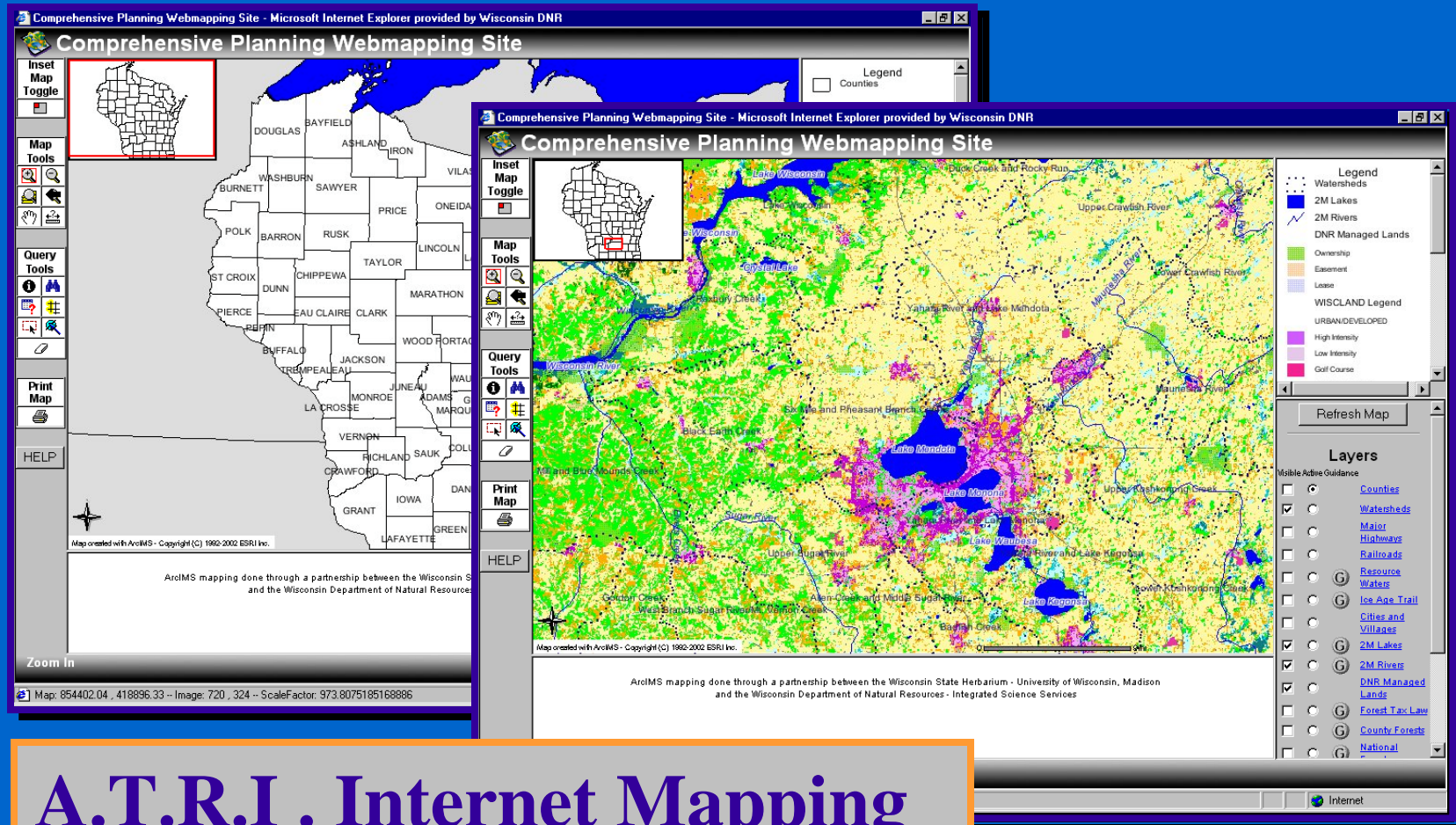
Types: Data Access

The screenshot displays the A.T.R.I. Metadata Explorer web application. The interface is divided into several sections:

- Search Section:** Includes tabs for 'Search', 'Browse', and 'Lists'. The 'Search' tab is active, showing a list of search results. The results are organized into categories: Biological Resources, Physical Resources, Cultural Resources, and Pollution Monitoring. Each category has a list of datasets with their respective subtypes.
- Define Search Section:** Contains a 'Define Search' tab and a 'Preferences' tab. The 'Define Search' tab is active, showing a list of search criteria.
- Wisconsin Trout Streams Section:** This section displays the metadata for the 'Wisconsin Trout Streams' dataset. It includes a 'Summary Metadata' tab, a 'Detailed Metadata' tab, a 'Data Access Options' tab, a 'Browse Graphic' tab, and a 'Usage Documentation' tab. The 'Summary Metadata' tab is active, showing the following information:
 - Dataset Name:** Wisconsin Trout Streams (ATRI ID: 823)
 - Data Manager's own on-line metadata:** [Data Manager's own on-line metadata](#)
 - Notice:** Abstract: The Wisconsin Trout Streams 1:24,000 shapefile is created from an ARC/INFO vector coverage representing the hydrography (lakes and streams) of Wisconsin that contain trout for sport fishing. This dataset is derived from the 1:24,000-scale hydrography layer which was derived from the U.S. Geological Survey (USGS) 7.5 minute quadrangle scanned separates (TIFF format); USGS Digital Line Graphs (DLGs), and (or) USFS Cartographic Feature Files (CFFs).
 - Purpose:** These data are used for display, mapping and analytic purposes where a relatively detailed representation of hydrography, as well as the location and distribution of trout quality streams is needed.
 - Originator:** Wisconsin Dept. of Natural Resources
 - Data Update Frequency:** Unknown
 - Last Updated:**
 - Use Constraints:** For information about use constraints, refer to the "License Agreement for WIDNR GIS Data", also available from the data distributor.
 - Access Constraints:** This dataset will be copyrighted and requests for copyrighted data must be made to the data distributor. For more information, click the Data Access Options tab

A.T.R.I. Metadata Explorer

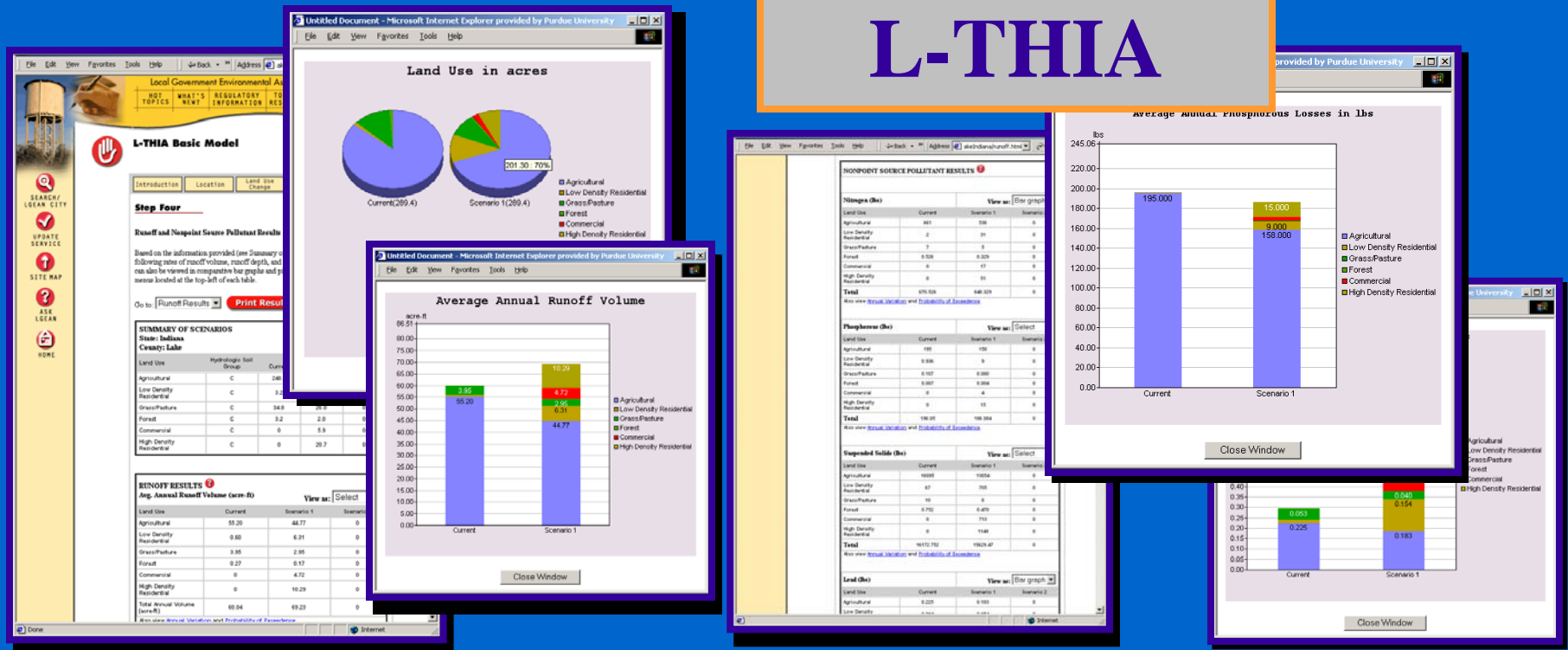
Types: Interactive Mapping



A.T.R.I. Internet Mapping

Types: Predictive Modeling

L-THIA



Runoff

NPS pollution

Types: Predictive Modeling

Tree Growth Model

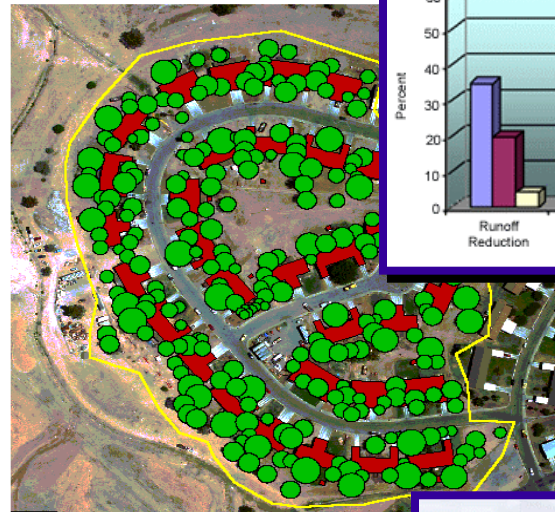


8%
5%
\$7.78 / home
0.45 tons / year

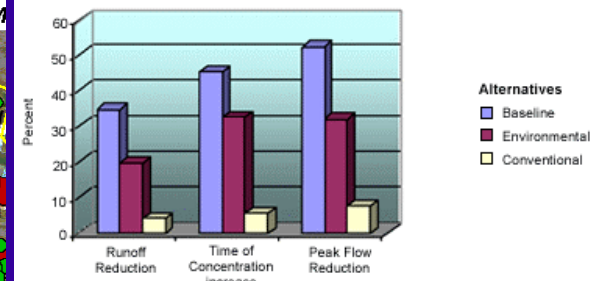
Tree Canopy:
Stormwater Runoff Reduction:
Summer Energy Savings:
Carbon Sequestration:

42%
23%
\$20.02 / home
2.40 tons / year

Davis-M



Comparison of Ecological Stormwater Services



CITYgreen



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What was “Changing Landscapes 1”?

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Changing Landscapes 1

Workshop Structure

Tools Demonstrated

- L-THIA
- PlaceIt
- Window to My Environment
- CommunityViz
- Dane Index
- TURM
- CITYgreen

Changing Landscapes 1

Evaluation Form

Windows to my Environment

Your Name: (optional) _____
 Your Organization/Agency: (optional) _____

Please categorize your organization: (required)

☐ State Agency ☐ Nonprofit ☐ University
☐ Local Government ☐ Private Firm ☐ Other: _____

Use the following measurements to help you answer the questions on the back of this response form.

COST

1	2	3	4	5
No investment		Start up cost		Continued investment

KNOWLEDGE LEVEL

1	2	3	4	5
Little to no technical expertise required		Some learning or expertise required		Significant level of technical expertise required

DATA

1	2	3	4	5
Minimum data required to use tool		Some data gathering or customization required to use tool		Significant amount of data or customization required to use tool

STAFFING

1	2	3	4	5
No staff commitment for user		Some level of staff commitment		Continued staff commitment for user

PLATFORM REQUIREMENTS

1	2	3	4	5
Minimal technologies required to use tool (i.e., internet access)		Software required to use tool (i.e., ArcView)		Software and equipment dedicated to tool

VALIDITY

1	2	3	4	5
The tool's assumptions and premises are clear		Some clarification is needed		The tool's assumptions and premises are unclear

TRANSPARENCY

1	2	3	4	5
I understand how the tool is functioning		Some clarification is needed		I am unclear as to how the tool is functioning

UNDERSTANDABILITY

1	2	3	4	5
I understand the tool's product		Some clarification is needed		I don't understand the tool's product

SCOPE: SITE SPECIFIC

1	2	3	4	5
Not appropriate for microanalysis (i.e., parcel or site plan)		Some ability to analyze site specific information		Well-suited for microanalysis (i.e., parcel or site plan)

SCOPE: BROAD APPLICATION

1	2	3	4	5
Not appropriate for broad analysis (i.e., regional or resource specific)		Some ability to analyze broad level information		Well-suited for broad analysis (i.e., regional or resource specific)

Windows to my Environment *cont'd*

Please answer the following to the best of your understanding.

1. I think this tool could be useful in the work I do.

	Yes	No	Unsure
a. My organization can afford to use this tool.	Yes	No	Unsure
b. I feel I could use this tool on my own without further technical expertise. If no, do you think a short training session would enable you to use this tool on your own?	Yes	No	Unsure
c. This tool is similar to another tool I use (or would like to use) in my work. If yes, please name: _____	Yes	No	Unsure

2. I think this tool could help raise the public's level of discussion regarding land use decisions.

	Yes	No	Unsure
a. The public I work with would be interested in using this tool.	Yes	No	Unsure
b. At least some of the public I work with have the technical expertise to use or understand the applications of this tool. If no, do you think a short training session would enable them to use/understand this tool?	Yes	No	Unsure
c. I think the public I work with would be interested in learning about this tool, or others similar to it.	Yes	No	Unsure

3. The presentation of this tool was educational.

If no, please use the comment space below to recommend improvements.

GENERAL COMMENTS (We are interested in learning about your reaction to this tool as well as to the manner in which it was presented.)

If you are interested in more information or would like to invite your constituents to workshops later this year, please write your email address below.

Changing Landscapes 1

Evaluation Results

Changing Landscapes: Anticipating the effects of local land use decisions
Evaluation Form Results

	L-THIA	PlaceIT	Windows to my Environment	Community Viz	Dane INDEX	TURM	CITYgreen
1. I think this tool could be useful in the work I do	81% Yes 6% No 10% Unsure 4% No Answer	56% Yes 11% No 29% Unsure 5% No Answer	75% Yes 8% No 15% Unsure 1% No Answer	56% Yes 13% No 26% Unsure 6% No Answer	38% Yes 32% No 27% Unsure 4% No Answer	48% Yes 35% No 13% Unsure 4% No Answer	42% Yes 30% No 23% Unsure 5% No Answer
1.a My organization can afford to use this tool	92% Yes 0% No 3% Unsure 7% No Answer	53% Yes 24% No 18% Unsure 5% No Answer	96% Yes 1% No 1% Unsure 1% No Answer	20% Yes 43% No 30% Unsure 7% No Answer	20% Yes 52% No 25% Unsure 4% No Answer	74% Yes 9% No 9% Unsure 7% No Answer	40% Yes 30% No 23% Unsure 7% No Answer
1.b I feel I could use this tool on my own without further technical expertise	71% Yes 14% No 11% Unsure 4% No Answer	35% Yes 48% No 14% Unsure 3% No Answer	89% Yes 3% No 8% Unsure 0% No Answer	13% Yes 59% No 22% Unsure 6% No Answer	4% Yes 82% No 11% Unsure 4% No Answer	70% Yes 13% No 11% Unsure 6% No Answer	22% Yes 58% No 18% Unsure 2% No Answer
1.b.1 If no, do you think a short training session would enable you to use this tool on your own	70% Yes 0% No 20% Unsure 10% No Answer	59% Yes 16% No 16% Unsure 9% No Answer	50% Yes 0% No 50% Unsure 0% No Answer	31% Yes 41% No 22% Unsure 6% No Answer	22% Yes 41% No 22% Unsure 15% No Answer	29% Yes 43% No 14% Unsure 14% No Answer	57% Yes 29% No 6% Unsure 9% No Answer
1.c This tool is similar to another tool I use	17% Yes 56% No 14% Unsure 14% No Answer	14% Yes 65% No 9% Unsure 12% No Answer	32% Yes 49% No 8% Unsure 11% No Answer	7% Yes 57% No 11% Unsure 24% No Answer	5% Yes 75% No 9% Unsure 11% No Answer	6% Yes 65% No 11% Unsure 17% No Answer	12% Yes 72% No 10% Unsure 7% No Answer
2. I think this tool could help raise the public's level of discussion regarding land use decisions	88% Yes 1% No 6% Unsure 4% No Answer	91% Yes 2% No 5% Unsure 3% No Answer	63% Yes 4% No 29% Unsure 4% No Answer	81% Yes 6% No 9% Unsure 2% No Answer	61% Yes 11% No 29% Unsure 0% No Answer	69% Yes 9% No 20% Unsure 2% No Answer	75% Yes 8% No 15% Unsure 2% No Answer

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Using Decision Support Tools

- Use tools from the beginning.
- Base tool selection on the users' skill level.
 - low-tech, free for beginners.
 - state-of-the-art, complex, time consuming for experts.
- Don't let tools steal the show.



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Problems to Overcome

- No single tool is perfect for everything.
- Technology is only as good as the supporting data.
 - spatial information must be assembled and continually maintained.
- Data are often the limiting factor.

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Problems to Overcome

- Must not hide inherently political choices within technical selection of data or the analysis, presentation, or distribution of results - create an even playing field.
- The ability to store and access information increases the potential for information abuse and misuse.

For More Information...



www.dnr.state.wi.us



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Approach to Assistance

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Phase I

(completed)

- Established partnerships.
 - DNR-EPA Region 5, DNR-state agencies, etc.
- Conducted *Changing Landscapes* workshop.
- Disseminated evaluation results.
 - provided feedback to tool developers
 - modified and web-enabled EPA tools

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Phase II

(FY 04-05)

- Expand partnerships.
 - Wisconsin Realtors Association
 - Wisconsin Chapter, APA
- Conduct *Changing Landscapes II* workshop.
- Define statewide technical assistance efforts.
 - focus = data distribution, tool introduction, technical assistance, and training

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Phase II

(FY 04-05)

- Address identified problems.
- Tool refinement and development.
 - Midwest Spatial Decision Support Network
- Develop and disseminate publications.



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Phase III

(FY 05-06)

- Evaluate statewide training and technical assistance.
- Assess data and tool use in local decision-making and evaluate resulting decisions.
- Review and package partnership.

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Thank you!



Questions?

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